Protecting the Environment and Public Health

IN THE U.S.–MEXICO BORDER REGION

BORDER 2020

FRONTERA 2020

Overcoming Binational Environmental Challenges

The U.S.-Mexico border region is home to over 15 million people who share natural resources, watersheds, and air basins that transcend political boundaries. Binational pollution impacts both sides of the border and necessitate a coordinated response. To improve and protect the environment and public health, the Laz Paz Agreement was signed by the Governments of Mexico and the United States in 1983. Thus, providing the foundation for cooperative efforts to address the complex and intertwined environmental issues along the U.S.-Mexico border.

Opening ceremony of the Border 2020 Program at Tijuana, Baja California, on August 8th, 2012.

Controlled agriculture field burn in Dona Ana County, New Mexico.

A Diverse U.S.-Mexico Border Region

- 15 million+ people borderwide
- 26 federally recognized U.S. tribes
- (#) of watersheds with 2 listed as U.S. national priorities
- 40+ U.S. counties and 80 M.X. municipalities
- 4 transboundary rivers into the U.S .
- 2,000 mile shared border

TIMELINE

Building from the La Paz Agreement, U.S. EPA and Mexico's SEMARNAT have implemented four successive binational programs to meet emerging environmental challenges in this dynamic region. Along the entire border key stakeholders such as the 10 states, 26 tribes and local partners have provided leadership and additional funding to implement projects that advance environmental protection and public health improvements while the population and economic activity has increased.

1983

The Basis for Binational Cooperation — La Paz Agreement

Presidents Reagan of the U.S. and President de la Madrid of Mexico sign the La Paz Agreement.

Recognizing the need to cooperate binationally on environmental and public health problems in the border region, the Governments of the United States and Mexico signed the Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area (the La Paz Agreement), in the city of La Paz, Baja California Sur, Mexico, in 1983.

1992

Integrated Border Environmental Plan (IBEP)

The first binational border program, IBEP, focused on enhanced environmental regulation and resulted in significant investments in infrastructure along the border. Although the binational environment improved, many projects were implemented at a federal scale and missed local concerns for border communities regarding environmental health and natural resources.

1996

Border XXI

Local emergency response sister-cities were developed.

Following IBEP, Border XXI established a five-year bilateral effort which included additional federal partners to achieve its goals, engaged the states and U.S. tribes , and included over 40 public meetings to solicit input and identify local priorities Border XXI also established nine borderwide workgroups to address transboundary environmental issues. While the workgoups implemented many pilot projects benefitting communities, the program objectives remained broad in nature.

2003

Border 2012

Partnered with U.S. tribe to enhance solid waste management of Necua Indigenous Community in Baja California, 2006.

The Border 2012 Program set an ambitious ten-year plan that included specific and measurable environmental goals and objectives. It continued engagement of state and local communities and operated through four new regional workgroups and local taskforces to implement stakeholder-led projects.

2012

Border 2020

Improving water infrastructure in the Tijuana- San Diego region.

Border 2020 continues a bottom-up approach and tackles emerging environmental issues. Program goals were established binationally and seek to improve air and water quality, reduce waste, strengthen emergency response, promote environmental stewardship and address environmental health. These goals directly align with U.S. EPA's core programs, local priorities, and the original mandate from the La Paz Agreement to address the complex and on-going regional environmental challenges.

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Protecting Communities Borderwide

Aerial view of Imperial County, California.

Groundbreaking ceremony of Water System Improvements in Anthony, New Mexico.

Improving the Air We Share

Many U.S.-Mexico border cities share binational air basins, where pollutants such as particulate matter (PM_{10}, $PM_{2.5}$) and ozone (NOx and VOC) travel across borders. Exposures to these pollutants can affect our lungs, triggering a variety of health problems, particularly to vulnerable populations with asthma. In the border region, ozone is problematic in the San Diego and Imperial Valley, California air basins while PM is a key concern in the El Paso, Texas air basin.

In response, local binational task forces formed to coordinate and implement solutions such as improving and/or expanding monitoring networks, increasing data availability, and expanding public outreach. Air monitoring from 2006 -2014 identified a decline in ozone exceedances in the San Diego and Imperial Valley air basins and PM exceedances in the El Paso air basin.

In addition, 170,000 tons per year of PM10 was eliminated by paving dusty roads and improving urban transport borderwide. The border region also reduced emissions at ports-of-entry by reducing wait times for idling vehicles. Binational partnerships thru State Implementation Plans (in U.S.) and ProAire (in Mexico) are also working to reduce atmospheric and implement of over 30 mitigation strategies.

Enhancing Water Quality

The U.S.-Mexico border region shares four transboundary watersheds, with two ranking as U.S. priorities, as well as many rivers flowing north. Untreated wastewater poses environmental health challenges due to outdated infrastructure and extreme weather events that lead to sewage overflows with untreated stormwater and wastewater entering these transboundary waterways.

Since 1997, the Border Water Infrastructure Program (BWIP) and binational program partners have supported the construction and/or expansion of water and wastewater projects that are eliminating over 350 million gallons a day (mgd) of untreated or inadequately treated sewage discharges each day. This is the equivalent to wastewater generated by 8.5 million people.

Another borderwide challenge is illegal dumping of waste that also contaminates waterways. The Border Program carries out projects like trash cleanup and waste reduction programs, to address this issue and reduce solid waste in the Pacific Ocean and transboundary rivers. In addition, green infrastructure pilot projects and training seminars in in Ambos Nogales were implemented to reduce impacts from stormwater runoff into the Nogales Wash and the Santa Cruz River in Arizona. The Program has continued to address public health concerns associated with inadequate waste management practices through the implementation and enhancement of local programs (Fats, Oils and Grease) in Laredo, Texas and Nuevo Laredo, Tamaulipas by working with local businesses understand local ordinances associated with the city's waste management. In addition, more than 1,000 community members and municipal staff in southern New Mexico and West Texas communities have received septic tank maintenance training to better understand the health threats associated with not properly maintaining their septic tanks.

Household hazardous collection event in Nuevo Laredo, tamaulipas, Mexico.

Ojinaga, Chihuahua Responders received HAZMAT training and equipment (2012).

Promoting a Cleaner Region

When waste materials are improperly disposed of they can negatively impact our lands, transboundary watersheds, oceans and create habitat for vector borne illnesses. As the population has grown in border communities, increased amounts of plastics, electronics, tires and other materials has overburdened the waste management infrastructure and services.

The Border Programs have improved collaboration between binational stakeholders to reduce waste through: 1) mitigating the impacts of plastic, tires, and other waste through cleanups and educational outreach and community actions; 2) reducing waste and increasing recovery and reuse of plastic, e-waste, tires, and other materials; and 3) building technical capacity among diverse stakeholders to adopt sustainable materials management practices.

Since 2005, communities in the U.S.-Mexico border region have carried out projects to properly dispose: over 8 million scrap tires, nearly 60,000 tons of household hazardous waste, and # tons of electronic waste.

Strengthening Emergency Response Capability

Binational emergency preparedness and response coordination is critical in the border region, because toxic smoke, contaminated water and other impacts from disasters and incidents pay no heed to local, state or international boundaries. Emergency preparedness efforts — training, exercises, equipment — have been tested in real-life emergencies and led to a more efficient coordinated response along the U.S.-Mexico border. Joint Response Teams (JRT) support these efforts and ensures timely binational reporting of incidents.

Through the Border Program, since 2013: more than 10,500 responders have received capacity trainings from over 140 training courses and over 25 binational exercises and 200 drill notifications between the U.S. and Mexico. These actions and resources have made the border region safer for residents, first responders and the environment.

Promoting Environmental Stewardship

Improperly managing hazardous materials can contaminate transboundary environments and cause environmental health issues. Challenges such illegal or improper crossing of hazardous wastes and material at the U.S.-Mexico port-of-entries and the lack of community information on pollutant sources has called for improved enforcement efforts, compliance assurance and environmental stewardship.

Through Border Program efforts, environmental inspectors are now present at ports-of-entry and information is exchanged between program partners on transboundary compliance at binational workshops.

Border communities are also benefitting from improved transparency of U.S. and Mexican pollutant discharge data i.e. the U.S. Toxic Release Inventory (TRI) and the Mexican Registry of Emissions and Transfer of Pollutions (RETC) reports. In addition, a binational public-private partnership also led to enhanced environmental stewardship, though ISO-14000 certification, for over 20 medium-sized companies in border communities.

Inspector conducts truck stop inspection in Calexico, CA. Photo/Jessica Rodriguez

Partnering Binationally to Tangible Environmental Improvements

▶ *Tangible improvements along the entire 2000-mile border thru stakeholder- driven projects*

CALIFORNIA

ARIZONA

NEW MEXICO

Pacific Ocean

BAJA CALIFORNIA

Gulf of California

SONORA

CHIHUAHUA

COAHUILA

TEXAS

SINALOA

NUEVO LEÓN

TAMAULIPAS

Gulf of Mexico

N

IMPACT: Binational Collection of Oil and Grease for Biodiesel

Through the Ambos Nogales Biodiesel Capacity Building Program, oil and grease, collected from local restaurants, is transformed into biodiesel fuel. This program has the dual benefit of 1) preventing the oil and grease from negatively impacting the sewer system and 2) creating an alternative fuel.

Key Accomplishments:

- Produced X amount of biodiesel from X to X
- Reduced grease blockages in sewer systems
- Increased local usage of biodiesel for fire department vehicles.

BEFORE: Grease from cooking

AFTER: Refueling cars with biodiesel converted from grease and oils

IMPACT: Improving Air Quality in the El Paso Region

The Joint Advisory Committee was formed in 1996 and works to improve air quality through binational collaboration. Some of its key accomplishments include:

Key Accomplishments:

- Introducing cleaner fuel (oxygenated gasoline) in Mexico
- Dedicating commuter lanes at border crossings to reduce emissions and wait times

View of El Paso-Ciudad Juarez Airshed

- Strengthening vehicle inspection in Ciudad Juarez with an average of 200,000 inspections completed annually

"The Border 2020 program is essential to continue providing guidelines of our goals with in the United States and the State of Texas. We need to continue to improve the environment and decrease pollution."

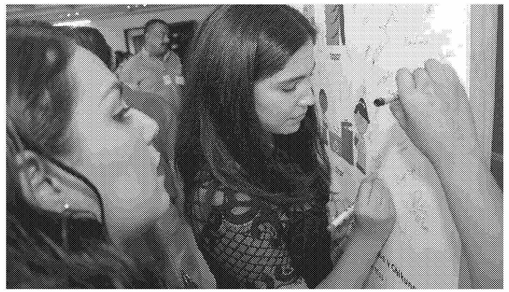
– **Dr. Elaine Mowinski Barron, MD**, El Paso, TX, U.S. Joint Advisory Committee Charter Member

IMPACT: 900+ Participate in Binational Symposia to Improve Environmental Health

From 2015-17 Border 2020 and EPA's Children's Health Offices convened four children's environmental health and two vector borne disease symposia. Topics included: indoor air quality, asthma, lead, mosquito borne illness, children's health and prenatal exposures among others.

Participation:

- 566+ attended the children's health symposia in El Paso and Brownsville, Texas, and San Diego, California
- 360+ attended two vector borne disease prevention symposia in Mexicali, Baja California and Nogales, Sonora
- Participants at symposia include healthcare experts from the U.S. and Mexico, public health practitioners, community health promoters or promotores, educators, medical students, faculty, government agencies, and the public.



Students sign pledge poster to manage vector borne diseases from mosquitoes using integrated pest management.

"The Border 2020 work group has allowed a working relationship to become an excellent friendship. It has been a very useful tool for the development of border environmental initiatives. Sonora and Arizona have benefited from multiple projects on water, air, and solid waste."

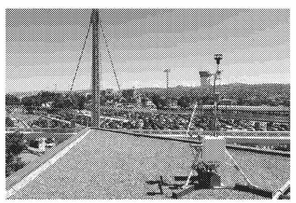
– **Luis Carlos Romo Salazar**, Commissioner, Commission on Ecology and Sustainable Development State of Sonora, Mexico

IMPACT: Improving the Air We Share

Federal, state, and local agencies are successfully collaborating to collect data at border crossings and inform neighboring communities.

Key Accomplishments:

- From 2015-16, monitored for $PM_{2.5}$ (fine, particulate matter) at San Ysidro, the busiest land port of entry in the Western Hemisphere and demonstrated impact of border traffic on air quality, especially during morning commute times
- Community and media outreach target sources of $PM_{2.5}$ including fireworks and open burning in the Imperial-Mexicali region to mitigate health impacts



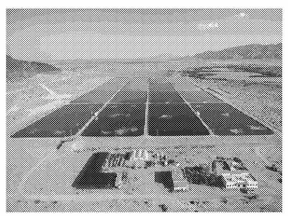
Roof-top equipment monitors $PM_{2.5}$ levels as traffic backs up at San Ysidro Port of Entry.

IMPACT: Enhancing our Water

After a Border 2012-funded monitoring program identified wastewater treatment plant discharges contributed to algal blooms in Rio Hardy, the program then funded the to design and construct a 97-hectare (240 acres) artificial wetland system in 2007.

Key Accomplishments:

- 15 mgd of discharges, such as wastewater and untreated sewage that once polluted the New River, is now treated
- Reduced nutrient levels from discharges and expanded riparian habitat

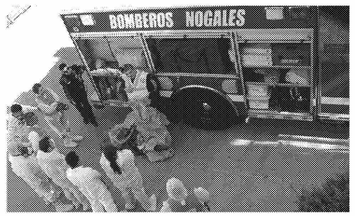


Photo/Bill Hatcher, Sonoran Institute

IMPACT: Strengthening Emergency Preparedness

The border region is highly industrial and hazardous materials pose a threat to communities and transboundary air and watersheds. Arizona State University led the development of a binational Hazardous Materials Emergency Response Training (HAZMAT) Pilot Program with industry, academia, and federal, state, and local agencies which:

- Developed five multi-day training courses
- Trained and certified 12 new instructors
- Created a binational model for on-going trainings to industry and first responders



Photo/Bill Hatcher, Sonoran Institute

IMPACT: Enhanced Sustainability in Alamo, TX

Thru a new partnership, the City enhanced environmental stewardship by:

- Decreasing illegal dumping by over 238 tons/year
- Presenting to over 1,270 students at five community presentations on recycling
- Distributing 5,000 bilingual recycling brochures and installing a revolving recycling trailer and bins at schools
- Leading community clean-ups and collection events

Caption here

IMPACT: Enhancing Emergency Preparedness in Colonias

In August 2017 the Border 2020 Program, along with NGOs in the Lower Rio Grande Valley region, hosted the first Emergency Preparedness Conference for Colonias.

Key Accomplishments:

- 110+ residents were trained on how to prepare, survive and recover from a disaster
- Other topics included: fire prevention, food safety and storage, county evacuation plans, disaster housing, and family emergency planning.

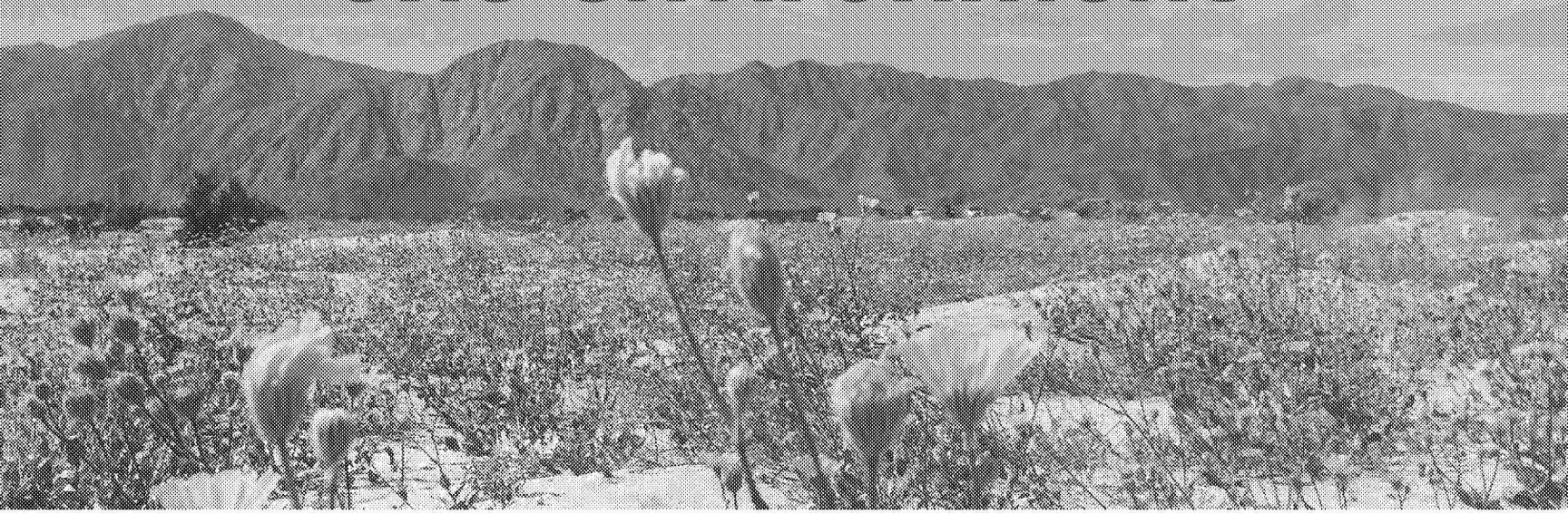
Colonias Conference in Alamo, Texas in August 2016

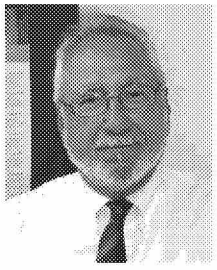
LEGEND

- U.S.-Mexico Border
- 62-mile Border Region
- U.S. States
- Mexican States
- Project Locations

Two countries, ten states, twenty-six tribes

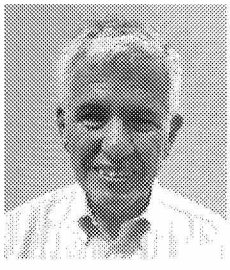
one environment





"The Border 2020 Program has allowed us to improve our relationship with EPA and more importantly they are accepting local input. That is important to develop long term relationships and really address U.S. – Mexico Border environmental issues."

– **Dr. Hector F. Gonzalez,** Laredo, TX, Director of the City of Laredo Health Department



"These trainings save lives. Thanks to the Border 2020 program, both countries are working together not only to protect the communities but ourselves. It's a great satisfaction knowing that thanks to these courses we have saved lives."

– **Luis Chaboya,** Retired Fireman, Nogales, AZ

BORDER 2020 FRONTERA 2020

U.S.-Mexico Border 2020 Program

www.epa.gov/border2020